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Washington, D.C. 20231

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 17

Application Number: 09/163,396
Filing Date: 9-30-1998
Appellant(s): Terry Si-Fong CHENG et al.

Garry D. Yacura
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed 1-7-2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is deficient because it is not a summary of the appellant's invention, but rather a description of his drawings. The real summary of the invention is shown in page 3 of the appellant's specification and *the Board's attention is respectfully directed to page 3 of the appellant's specification for a correct summary of invention*

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-26 stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,487,180	Ohtake	1-23-1996
6,118,767	Shen et al.	9-12-2000

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 5-9, 10-15, 16-19, 20-23, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtake (US PAT. 5,487,180) in view of Shen et al. (US PAT: 6,118,767, filed 11-10-1997, hereinafter Shen.)

Regarding claims 1, 5, 10, 16, 20, 24, Ohtake discloses method of determining initial transmission power comprising: a transmitter in A (fig. 12A) that wirelessly transmits control signal (pilot signal) and paging message to a mobile station of the mobile communication system, a controller in A that determines optimum talk channel power in accordance with control signal (pilot signal) strength of the pilot signal wirelessly received by the mobile station, the transmitter wirelessly transmitting message in a talk channel at the optimum talk channel power (fig. 12A, col. 4 lines 24-48, col. 9 lines 54-67), wirelessly transmitting a control signal (pilot signal) to a mobile station 'a' (fig. 12A) of a mobile communication system, determining optimum down talk channel power in accordance with pilot signal strength of the pilot signal wirelessly received by the mobile station 'a', and wirelessly transmitting message in a talk channel to the mobile station 'a' over a talk channel at optimum talk channel power; a talk channel determination source code segment (inherent) for causing a computer of a mobile switching center associated with base station A (fig. 12A) of the mobile communication system to determine optimum talk channel power in accordance with pilot signal strength of the pilot signal wirelessly received by the mobile station 'a' (fig. 12A) of the mobile communication system, and talk channel transmission source code segment (inherent) for the computer to direct the base station 'A' (FIG. 12A) to wirelessly

transmit message in talk channel to the mobile station 'a' over a talk channel at the optimum talk channel power (fig. 12A, col. 4 lines 24-64).

Ohtake differs from the claimed invention by not explicitly showing transmission of page at the optimum paging channel power.

However, Shen discloses interference control for CDMA which teaches need for intelligent power control for reducing interference in order to provide a reasonable capacity in the mobile system (col. 1 lines 54-63).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ohtake's system to provide for transmission of page at the optimum paging channel power as this would provide the benefits of using minimum possible power for signaling between the base station and mobile station, thus contributing to the reduction in interference power in the system and all so maintain a reasonable capacity in the mobile system as taught by Shen.

Regarding claims 2-3, 6-8, 11-14, 17-18, 21-22, 25-26, Ohtake further shows the following: the controller in 'A' (fig. 12A) determines optimum talk channel power in accordance with the control signal (pilot signal) strength and threshold value (forward loading of the base station), the forward loading of the base station being a ratio of current transmitted power of the base station to maximum power of the base station, controller in 'A' (fig. 12A) also determines an optimum talk channel (traffic channel) power in accordance with the pilot signal strength, traffic channel determination source code segment (inherent) for causing the computer in 'A' to

determine optimum talk channel (traffic channel) power in accordance with the pilot signal strength, transmission channel source code segment (inherent) for causing the computer to wirelessly transmit a call to the mobile station 'a' (fig. 12A) over a traffic channel at the optimum traffic channel power (fig. 12A, col. 4 lines 24-64).

Ohtake differs from the claimed invention by not explicitly showing transmission of page at the optimum paging channel power.

However, Shen discloses interference control for CDMA which teaches need for intelligent power control for reducing interference in order to provide a reasonable capacity in the mobile system (col. 1 lines 54-63).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ohtake's system to provide for transmission of page at the optimum paging channel power as this would provide the benefits of using minimum possible power for signaling between the base station and mobile station, thus contributing to the reduction in interference power in the system and all so maintain a reasonable capacity in the mobile system as taught by Shen.

Regarding claims 4, 9, 15, 19, 23, Ohtake does not show CDMA mobile communication system.

However, Shen discloses Interference control for CDMA networks which teaches use of CDMA system and use of same frequency band by all users, each user being assigned a different code for access to the cellular system, which implies a greater system capacity (col. 1 lines 34-63)

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ohtake's system to be used in a CDMA communication system as CDMA system would provide for greater utilization of wireless communication system capacity as taught by Shen.

(11) Response to Argument

Rejection of claims 1-26 under 35 U.S.C 103 (a) as being obvious over Ohatake (US PAT: 5,487,180) in view of Shen et al. (US PAT: 6,118,767, hereinafter Shen): Regarding rejection of claims 1-26 based on the above references, Appellant alleges that a prima facie case of obviousness has not been established for any of the claims 1-26. Regarding this, Appellant further alleges that "The combination of references by the Examiner do not teach or suggest each and every limitation of the rejected claims". Contrary to Appellant's interpretation of Ohatake reference, Ohatake does teach a method of determining initial transmission power comprising: a transmitter in A (fig. 12A) that wirelessly transmits control signal (pilot signal) and paging message to a mobile station of the mobile communication system, a controller in A that determines optimum talk channel power in accordance with control signal (pilot signal) strength of the pilot signal wirelessly received by the mobile station, the transmitter wirelessly transmitting message in a talk channel at the optimum talk channel power (fig. 12A, col. 4 lines 24-48, col. 9 lines 54-67). Ohatake clearly teaches determining optimum power level of a down talk channel for communication between mobile station and base station based

on (a) measuring at the mobile station a reception level of a down control channel from the base station and reporting the measured reception level of to the base station, baaed on this base station determining optimum power level of down talk channel (col. 4 lines 24-48). Ohatake differs from the claimed invention by not explicitly showing transmission of page at the optimum paging channel power. But Shen discloses interference control for CDMA networks which teaches need for intelligent power control for reducing interference in order to provide reasonable capacity in the mobile system (col. 1 lines 54-63) which clearly imply controlling the power levels of all channels including paging channel in order to control interference in the mobile system so that mobile system is operable at the optimum capacity. Regarding Shen reference, Appellant further argues, on second and third paragraphs of pages 8-9 of his appeal brief, that "Although paging channels are processed in a manner similar to the processing of traffic channels, or as referred to in the Ohatake reference as talk channels, known CDMA systems do not address the need for determining an optimum paging channel power (emphasis added)". With respect to this argument, Appellant is interpreting Shen reference to promote his arguments. In spite of it, Shen reference teaches need for power level control in the mobile system which imply controlling power level of all channels including paging channel so that reasonable capacity of the mobile communication system can be maintained (col. 1 lines 54-63). Ohatake in combination with Shen clearly teaches claim limitations of Appellant's claims as explained above. In view of this, Examiner respectfully

submit that Examiner has established *prima facie* of obviousness and, therefore rejection of claims 1-26 should be upheld.

Appellant further argues, on second paragraph page 10 of his appeal brief, that "No suggestions or motivation has been shown in the references themselves". Regarding this, Appellant further argues that "Besides the fact Shen et al. fails ... it is clear that relied upon reference do not provide a suggestion or motivation to combine the teachings thereof with Ohatake". Contrary to Appellant's portrayal of references being not providing motivation or suggestion to combine Ohatake with Shen, it is respectfully submitted to the Board's attention that Ohatake clearly discloses need for determining optimum power level between mobile station and base station and maintaining it throughout the call between mobile station and base station, consequently preventing interference of the communication in another zone due to unnecessary high transmission power, which makes it possible to build a communication system having a high reliability (col. 4, lines 61-67, col. 5 lines 1-6) and Shen also discloses need for power control in mobile communication system which imply controlling power level of all communication channels including paging channel to maintain reasonable capacity in the system (col. 1 lines 54-67). So there is enough motivation to combine teachings of Ohatake which teaches the concept of optimizing power level of down talk channel based on measurement of power level of down control channel transmitted by the base station to the mobile station and mobile station sending back value of the measured power level of the down control channel to the base station and base station using it as a basis for determining the

optimum power level of the down talk channel with Shen which implicitly discloses the need for power control in mobile communication system which imply controlling power level of all communication channels including paging channel to maintain reasonable capacity in the system to arrive at Appellant's claims. In view of this, Examiner respectfully submit the combination of Ohatake and Shen is proper and accordingly, a proper *prima facie* case of obviousness has been made.

Appellant further argues, on paragraphs one and two of page 11 of his appeal brief, that "No suggestion or motivation to combine has been shown in the Knowledge available to one of ordinary skill in the art". In connection with this, Appellant further argues that "the knowledge used by the Examiner to combine Ohatake and Shen et al. references ... Appellants respectfully submit the need for determining optimum paging channel power in accordance with the pilot signal strength was known prior to the Appellants' claimed invention. Therefore, because the desirability to determine an optimum paging channel power in accordance with the pilot signal strength of pilot signal was unknown by those ... is insufficient to establish a proper *prima facie* case of obviousness". Regarding this, Examiner does not agree with this argument of the Appellnts in as much as Ohtake clearly discloses the concept of optimizing down talk channel power level based on received measurement of power level of the down control channel from the mobile station, the down control channel signal having been sent by the base station to the mobile station (fig. 12A, col. 9 lines 50-67) and he further also discloses the need for doing it in that it minimizes interference of communications

in anither zone, resulting in building communication system with high reliability (col. 4 lines 61-67, col. 5 lines 1-6) and Shen also discloses need for power control in mobile communication system which imply controlling power level of all communication channels including paging channel to maintain reasonable capacity in the system (col. 1 lines 54-67). So one of ordinary skill in the art at the time invention was made would be motivated to combine Ohatake with Shen to arrive at Appellants claimed invention. Examiner respectfully submit that Examiner's suggestion or motivation to combine the two relied on references is sufficient to establish *prima facie* case of obviousness.

Appellant further alleges, on paragraph one of page 12 of his appeal brief, that "The examiner has used hindsight reconstruction to come to the conclusion the rejected claims are obvious". In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

For the above reasons, the examiner respectfully submits that a ***prima facie*** case of obviousness of the claimed invention has been set forth in the Final office action and appellant(s) have failed to over come the ***prima facie*** case of obviousness under 35 U.S.C 103(a). Accordingly, it is believed that final rejection under 35 U.S.C 103(a) is proper and Board of Patent Appeals and Interferences is therefore respectfully urged to affirm the Examiner's rejection(s).

Respectfully submitted

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